



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

NOTICE OF ALLOWANCE AND ISSUE FEE DUE

023456 QM02/0418
WADDEY & PATTERSON
414 UNION STREET, SUITE 2020
BANK OF AMERICA PLAZA
NASHVILLE TN 37219

APPLICATION NO.	FILING DATE	TOTAL CLAIMS	EXAMINER AND GROUP ART UNIT	DATE MAILED
09/649,518	08/29/00	030	KIM, T 3746	04/18/01
First Named Applicant	CROCKER, 35 USC 154(b) term ext. = 0 Days.			

TITLE OF INVENTION
PILOTED AIRBLAST LEAN DIRECT FUEL INJECTOR

ATTY'S DOCKET NO.	CLASS-SUBCLASS	BATCH NO.	APPLN. TYPE	SMALL ENTITY	FEE DUE	DATE DUE
2 23456	060-039.060	F12	UTILITY	YES	\$620.00	07/18/01

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED.

THE ISSUE FEE MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.

HOW TO RESPOND TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

- A. If the status is changed, pay twice the amount of the FEE DUE shown above and notify the Patent and Trademark Office of the change in status, or
- B. If the status is the same, pay the FEE DUE shown above.

If the SMALL ENTITY is shown as NO:

- A. Pay FEE DUE shown above, or
- B. File verified statement of Small Entity Status before, or with, payment of 1/2 the FEE DUE shown above.

II. Part B-Issue Fee Transmittal should be completed and returned to the Patent and Trademark Office (PTO) with your ISSUE FEE. Even if the ISSUE FEE has already been paid by charge to deposit account, Part B Issue Fee Transmittal should be completed and returned. If you are charging the ISSUE FEE to your deposit account, section "4b" of Part B-Issue Fee Transmittal should be completed and an extra copy of the form should be submitted.

III. All communications regarding this application must give application number and batch number.

Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

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UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/649,518 08/29/00 CROCKER

23456

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414 UNION STREET, SUITE 2020
BANK OF AMERICA PLAZA
NASHVILLE TN 37219

EXAMINER

KIM, T

ART UNIT

PAPER NUMBER

3746

DATE MAILED:

4-18-01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

THE PATENT TERM ADJUSTMENT TO DATE IS 00 DAYS. IF THE PATENT
ISSUE FEE IS PAID ON THE DATE THAT IS THREE MONTHS AFTER THE
MAILING DATE OF THIS NOTICE AND THE PATENT ISSUES ON THE
TUESDAY BEFORE THE DATE THAT IS 28 WEEKS (SIX AND A HALF
MONTHS) AFTER THE MAILING DATE OF THIS NOTICE, THE TERM
ADJUSTMENT WILL BE 00 DAYS.

Notice of Allowability

Application No.

09/649,518

Examiner

Ted Kim

Applicant(s)

CROCKER ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to ____.
2. ☒ The allowed claim(s) is/are 1-30.
3. ☐ The drawings filed on ____ are acceptable as formal drawings.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

5. ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE FOR SUBMITTING NEW FORMAL DRAWINGS, OR A SUBSTITUTE OATH OR DECLARATION. This three-month period for complying with the REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL is extendable under 37 CFR 1.136(a).**

6. ☐ Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.
7. ☒ Applicant MUST submit NEW FORMAL DRAWINGS (ORIGINALS WERE INFORMAL)
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review(PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No. ____.
- (b) ☐ including changes required by the proposed drawing correction filed ____, which has been approved by the examiner.
- (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. ____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

8. ☐ Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any reply to this letter should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE / SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

Attachment(s)

- 1 ☒ Notice of References Cited (PTO-892)
- 3 ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 5 ☒ Information Disclosure Statements (PTO-1449), Paper No. 5.
- 7 ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

- 2 ☐ Notice of Informal Patent Application (PTO-152)
- 4 ☐ Interview Summary (PTO-413), Paper No. ____.
- 6 ☒ Examiner's Amendment/Comment
- 8 ☒ Examiner's Statement of Reasons for Allowance
- 9 ☐ Other

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The specification has been amended as follows:

** On page 1, the last paragraph beginning with "REFERENCE TO PRIOR APPLICATIONS" has been deleted and moved to the first line of page 1, as required by 37 CFR 1.78.

The claims have been amended as follows:

- ** Claim 28, line 5 "air flow" has been replaced by -airflow-- for consistency.
- ** Claim 30, line 1, "air flow" has been replaced by -airflow-- for consistency.
- ** Claim 30, line 3, "air flow" has been replaced by -airflow-- for consistency.
- ** Claim 30, line 5, "air flow" has been replaced by -airflow-- for consistency.

Reasons for Allowance

2. The following is an examiner's statement of reasons for allowance: the prior art of record do not fairly teach applicant's claimed invention, in particular it is noted that the air splitter creating a bifurcated recirculation zone is created between the pilot air stream and the main air stream is not fairly taught in permissible combination with the rest of the claim limitations. In addition for claims 21 and 22, there is no teaching for utilizing an air splitter located concentrically between the first and second swirlers nor the second and third swirlers, respectively, with the rest of the locations of the swirlers and injectors being specified as they are. It is noted that none of the references fairly teach the bifurcated reaction zone with the pilot/primary injector/swirler and the main/secondary injector/swirler. The closest reference to teaching a bifurcated reaction zone is Toqan et al, which does not employ the same configuration of injectors/swirlers as required in the claims and is not designed for use in a gas turbine system.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ted Kim whose telephone number is 703-308-2631. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thorpe can be reached on 703-308-0102. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3588 for regular communications and 703-305-3588 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.



Ted Kim
Primary Examiner
April 12, 2001